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10/725,802	12/02/2003	Michael Joseph Washburn	139682UL (15276US01)	3317

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EXAMINER	
BODDIE, WILLIAM	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/725,802	WASHBURN, MICHAEL JOSEPH	
	Examiner	Art Unit	
	WILLIAM L. BODDIE	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In an amendment dated, April 22nd, 2009 the Applicant amended claims 1, 7, 13, 21-22. Currently claims 1-22 are pending.

Response to Arguments

2. Applicant's arguments filed April 22nd, 2009 concerning the "direct functional command" arguments have been fully considered but they are not persuasive.

3. Applicants again argue that McCabe does not teach translating rotational movement of a trackball to a direct functional command. Applicants argue that McCabe merely discloses selection of parameters, configurations and adjustment of time periods. These selections and adjustments are not seen by the Applicants to rise to the level of a "direct functional command."

As with all claim limitations, they must be given their broadest reasonable interpretation. "Direct functional command" is seen as a relatively broad term. McCabe discloses the transmission of trackball movement to effectuate fine-tuning of a maximum velocity curve display and selection of specific parameters for calculation and display (col. 7, lines 43-67, fig. 2c; col. 11, line 67 - col. 12, lines 2). These alone are seen as sufficient to disclose the current claim limitation. However McCabe also discloses translating trackball movement into commands which directly position delimiters to adjust a time period. These *commands directly* effect the calculation of a *functional* aspect of the ultrasound device of McCabe, the maximum velocity for a heartbeat. In short, one function of McCabe's medical device is the calculation of a maximum velocity for a heartbeat. The user *directly* submits commands that are

executed to perform that calculation. As such McCabe is seen as disclosing a “direct functional command."

4. Ignoring for a moment the broadest reasonable interpretation of "direct functional command" let us first determine what the Applicants themselves view as a "direct functional command." Absent discussion within the remarks, the Examiner turns to the original specification for what the Applicants would agree is a "direct functional command."

Two locations within the specification are particularly helpful. The first location is paragraph 44 which states that movement is translated into "one or more commands for the imaging system." The next sentence provides one example of a command, “imaging scrolling command for the imaging system.” The second location in paragraph 40 discloses, trackball motion positions a Doppler range gate location.

With these examples in mind, we turn to the commands transmitted by McCabe. As an aside it should be noted that McCabe is controlling the same medical device that the Applicants are concerned with, an ultrasound device. McCabe expressly discloses, fine-tuning a maximum velocity curve in real-time (col. 7, lines 43-67); selection of parameters for calculation and display (col. 11, line 67 - col. 12, line 2); and finally moving delimiters to adjust the time period for determining the maximum velocity for a heartbeat (col. 13, lines 24-35). This final command is seen as roughly equivalent to the Applicants' own "image scrolling command" that is achieved by their invention.

5. Even if McCabe is insufficient, Goto is even more express about the adjustment of "direct functional commands" with a trackball. Goto discloses the selection amongst

four exposure modes; numerous shutter times; and numerous F-numbers (col. 18, line 61 – col. 19, line 12). These commands are seen as very similar to the example given by Applicants themselves and well-within the broadest reasonable interpretation of the phrase, "direct functional commands."

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-3, 5-8 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCabe et al. (US 5,868,676) in view of Gaughan et al. (US 5,589,893) and further in view of Goto (US 5,832,323).

With respect to claim 1, McCabe discloses, a method for remotely operating a medical diagnostic imaging system (fig. 1), said method comprising;

moving a trackball in a trackball device (61 in fig. 1);

translating movement of said trackball to a direct functional command for execution at said medical diagnostic imaging system (col. 7, lines 36-67);

transmitting said direct functional command based on movement of said trackball to said display imaging system from said handheld trackball device (col. 8, lines 1-10; for example); and

remotely executing said direct functional command at said medical diagnostic imaging system, wherein said direct functional command comprises directly changing a

function of said medical diagnostic imaging system based on said direct functional command (command adjusts the "P value" to fine tune the maximum velocity curve; col. 7, lines 43-51; by changing the "P value" the user has effectively changed the function used to display the ultrasound signals. A function with one set of values is by definition a different function than one with a second set of values. Also note col. 11, lines 21-32, 67 - col. 12, line 2 which describes use of the trackball in selecting amongst configuration settings. Finally McCabe discloses that the trackball is used to move delimiters and thereby adjust the time period for parameter calculation; col. 13, lines 25-24).

McCabe does not expressly disclose that the movement is rotational or that device is remote and handheld.

Gaughan discloses, a remote handheld (figs. 1-2) trackball device (fig. 6) that remotely transmits commands (bottom of fig. 8).

At the time of the invention it would have been obvious to make the transmission of the commands of McCabe's device wireless as taught by Gaughan.

The motivation for doing so would have been the well-known benefit of removing location limiting wires and allowing the user more freedom in operation.

Neither Gaughan nor McCabe expressly disclose that the function changing command is derived from rotational movement.

Goto discloses a method for operating an imaging system (fig. 4), said method comprising:

moving a trackball in a handheld trackball device (figs. 5-7);

translating rotational movement of said trackball to a direct functional command for execution at said imaging system (col. 20, lines 28-33);

transmitting said direct functional command based on rotational movement of said trackball to said imaging system from said handheld trackball device (col. 20, lines 28-33; col. 22, lines 30-32; for example).

Gaughan, Goto and McCabe are analogous art because they are from the same field of endeavor namely trackball input device controls for imaging devices.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use rotational motion of McCabe and Gaughan's remote trackball to command the imaging system; as taught by Goto.

The motivation for doing so would have been to improve the ergonomics and operability of the trackball (Goto; col. 6, lines 38-51; for example).

With respect to claim 2, McCabe, Gaughan and Goto disclose, the method of claim 1 (see above).

McCabe, when combined with Gaughan and Goto, further discloses wireless transmission (Gaughan; col. 2, lines 10-13) of a command to an imaging system (Gaughan; fig. 1).

With respect to claim 3, McCabe, Gaughan and Goto disclose, the method of claim 1 (see above).

Neither McCabe nor Goto does not expressly disclose depressing said trackball.

Gaughan further discloses, remotely transmitting a command based on depressing said trackball (send IR T'ball code in fig. 8).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the switch of Gaughan under the trackball of McCabe and Goto for the well-known benefit of ergonomic inputs and ease of use for the user.

With respect to claim 5, McCabe, Gaughan and Goto disclose, the method of claim 1 (see above).

McCabe further discloses, controlling said imaging system using a remote keypad (63 and 65 in fig. 1).

With respect to claim 6, McCabe, Gaughan and Goto disclose, the method of claim 1 (see above).

Neither McCabe nor Goto expressly disclose pressing a button on said handheld trackball device to trigger an imaging system command.

Gaughan further discloses, pressing a button (48 in fig. 2) on a handheld trackball device to trigger an imaging system command (send selected key code in fig. 8; col. 3, lines 5-8).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the switch of Gaughan alongside the trackball of McCabe and Goto for the well-known benefit of ergonomic inputs and ease of use for the user.

With respect to claim 7, McCabe discloses, a trackball device for controlling a medical diagnostic imaging system (fig. 1) said device comprising:

a trackball (61 in fig. 1) for directly controlling a function of said display imaging system based on motion of said trackball (user adjusts the "P value" to fine tune the maximum velocity curve; col. 7, lines 43-51; by changing the “P value” the user is in

controlling the ultrasound function of the device. Also note col. 11, lines 21-32, 67 - col. 12, line 2 which describes use of the trackball in selecting amongst configuration settings. Finally McCabe discloses that the trackball is used to move delimiters and thereby adjust the time period for parameter calculation; col. 13, lines 25-24);

a transmitter for transmitting a direct functional command to said medical diagnostic imaging system from said trackball device based on motion of said trackball (col. 8, lines 1-10; for example)), said direct functional command generated through translation of said motion of said trackball to a command for execution at said display imaging system (command adjusts the "P value" to fine tune the maximum velocity curve; col. 7, lines 43-51).

McCabe does not expressly disclose that the movement is rotational or that device is remote and handheld.

Gaughan discloses, a remote handheld (figs. 1-2) trackball device (fig. 6) that remotely transmits commands (bottom of fig. 8) and comprises a housing for holding said trackball and said transmitter (40 in fig. 2).

At the time of the invention it would have been obvious to make the transmission of the commands of McCabe's device wireless as taught by Gaughan.

The motivation for doing so would have been the well-known benefit of removing location limiting wires and allowing the user more freedom in operation.

Neither Gaughan nor McCabe expressly disclose that the function changing command is derived from rotational movement.

Goto discloses a method for operating an imaging system (fig. 4), said method comprising:

a trackball in a handheld trackball device (figs. 5, 7) for controlling imaging said imaging system based on rotational movement of said trackball (col. 20, lines 28-33);

a transmitter (356 in fig. 23; for example) transmitting said command based on rotational movement of said trackball to said imaging system from said handheld trackball device (col. 20, lines 28-33; col. 22, lines 30-32; for example); and

a housing for holding said trackball (301 in fig. 24; for example) and said transmitter (356 in fig. 23; for example).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include a housing and use rotational motion of McCabe and Gaughan's remote trackball to command the imaging system; as taught by Goto.

The motivation for doing so would have been to improve the ergonomics and operability of the trackball (Goto; col. 6, lines 38-51; for example).

With respect to claim 8, McCabe, Gaughan and Goto disclose, the device of claim 7 (see above).

Neither McCabe nor Goto expressly disclose pressing a button on said handheld trackball device to trigger an imaging system command.

Gaughan further discloses, pressing a button (48 in fig. 2) on a handheld trackball device to trigger an imaging system command (send selected key code in fig. 8; col. 3, lines 5-8).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the switch of Gaughan alongside the trackball of McCabe and Goto for the well-known benefit of ergonomic inputs and ease of use for the user.

With respect to claim 11, McCabe, Gaughan and Goto disclose, the method of claim 7 (see above).

McCabe further discloses, controlling said imaging system using a remote keypad (63 and 65 in fig. 1) to control said imaging system.

With respect to claim 12, McCabe, Gaughan and Goto disclose, the device of claim 7 (see above).

McCabe, when combined with Gaughan and Goto, further discloses a wireless handheld trackball device (Gaughan; col. 2, lines 10-13 and fig. 2).

With respect to claim 13, McCabe discloses, a remote mousing device for operating a medical diagnostic imaging system (fig. 1), said device comprising:

a moveable portion (61 in fig. 1) for operating said display imaging system based on motion of said moveable portion (col. 7, lines 36-67) in said mousing device; and

a transmitter for transmitting a direct functional command to said display imaging system based on said moveable portion (user adjusts the "P value" to fine tune the maximum velocity curve; col. 7, lines 43-51; by changing the “P value” the user is in controlling the ultrasound function of the device. Also note col. 11, lines 21-32, 67 - col. 12, line 2 which describes use of the trackball in selecting amongst configuration settings. Finally McCabe discloses that the trackball is used to move delimiters and thereby adjust the time period for parameter calculation; col. 13, lines 25-24), said direct

functional command generated through translation of motion of said moveable portion for execution at said medical diagnostic imaging system (command adjusts the "P value" to fine tune the maximum velocity curve; col. 7, lines 43-51).

McCabe does not expressly disclose that the movement is rotational or that device is remote.

Gaughan discloses, a remote handheld (figs. 1-2) trackball device (fig. 6) that remotely transmits commands (bottom of fig. 8).

At the time of the invention it would have been obvious to make the transmission of the commands of McCabe's device wireless as taught by Gaughan.

The motivation for doing so would have been the well-known benefit of removing location limiting wires and allowing the user more freedom in operation.

Neither Gaughan nor McCabe expressly disclose that the functional command is derived from rotational movement.

Goto discloses a method for operating an imaging system (fig. 4), said method comprising:

a trackball in a handheld trackball device (fig. 7) for controlling imaging said imaging system based on rotational movement of said trackball (col. 20, lines 28-33);

a transmitter (356 in fig. 23; for example) transmitting said command based on rotational movement of said trackball to said imaging system from said handheld trackball device (col. 20, lines 28-33; col. 22, lines 30-32; for example).

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the rotational motion of McCabe's remote trackball to command the imaging system, as taught by Goto.

The motivation for doing so would have been to improve the ergonomics and operability of the trackball (Goto; col. 6, lines 38-51; for example).

With respect to claim 14, McCabe, Gaughan and Goto disclose, the mousing device of claim 13 (see above).

McCabe, when combined with Gaughan and Goto, further discloses, wherein said moveable portion comprises a trackball (McCabe; 61 in fig. 1).

With respect to claim 15, McCabe, Gaughan and Goto disclose, the mousing device of claim 13 (see above).

McCabe, when combined with Gaughan and Goto, further discloses, an additional input receptor (McCabe; 63 in fig. 1; for example).

With respect to claim 16, McCabe, Gaughan and Goto disclose, the mousing device of claim 15 (see above).

McCabe, when combined with Gaughan and Goto, further discloses, wherein said additional input receptor is a button (McCabe; 63 in fig. 1).

With respect to claim 17, McCabe, Gaughan and Goto disclose, the mousing device of claim 13 (see above).

McCabe, when combined with Gaughan and Goto, further discloses, controlling said imaging system using a remote keypad (McCabe; 63 and 65 in fig. 1).

With respect to claim 18, McCabe, Gaughan and Goto disclose, the mousing device of claim 13 (see above).

McCabe, when combined with Gaughan and Goto, further discloses, a wireless handheld mousing device (Gaughan; col. 2, lines 10-13 and fig. 2).

With respect to claim 19, McCabe, Gaughan and Goto disclose, the mousing device of claim 13 (see above).

McCabe does not expressly disclose a remote handheld mousing device.

Gaughan discloses, a remote handheld mousing device (fig. 2).

At the time of the invention it would have been obvious to one of ordinary skill in the art to form the trackball of McCabe in the remote handheld form factor of Gaughan for the well-known benefits of ergonomics and ease of use.

8. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCabe et al. (US 5,868,676) in view of Gaughan et al (US 5,589,893) and Goto (US 5,832,323) and further in view of Chang (US 5,298,919).

With respect to claims 4 and 10, McCabe, Gaughan and Goto disclose, the method of claims 1 and 7 (see above).

Neither McCabe, Gaughan nor Goto expressly disclose, wherein said trackball comprises a wheel on a mousing device.

Chang, discloses mounting a wheel (18 in fig. 1) on a handheld device (10 in fig. 1) for inputting additional movement to a display system.

Chang, McCabe, Gaughan and Goto are analogous art because they are all from the same field of endeavor namely cursor control of imaging devices.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the wheel of Chang on the trackball device of McCabe, Gaughan and Goto for the clear benefit of allowing additional movement to be inputted into the system.

9. Claims 9 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCabe et al. (US 5,868,676) in view of Gaughan et al (US 5,589,893) and Goto (US 5,832,323) and further in view of Funda et al. (US 5,417,210).

With respect to claim 9, McCabe, Gaughan and Goto disclose, the device of claim 7 (see above).

Neither McCabe, Gaughan nor Goto expressly disclose the use of voice commands to control said imaging system.

Funda discloses, wherein said trackball device works with voice commands to control said imaging system (267 in fig. 1).

Funda, McCabe, Gaughan and Goto are analogous art because they are all from the same field of endeavor namely trackball input device controls for imaging devices.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the voice command control taught by Funda in the device of McCabe, Gaughan and Goto.

The motivation for doing so would have been so that communications with the system do not interfere with instrument manipulation (Funda; col. 4, lines 13-17).

With respect to claims 21-22, McCabe, Gaughan and Goto disclose, the remote mousing device of claim 13 (see above).

Neither McCabe, Gaughan nor Goto expressly disclose that the remote mousing device is integrated with an instrument.

Funda discloses, wherein a mousing device is integrated with an imaging instrument (col. 6, lines 32-59; col. 9, lines 65-68).

At the time of the invention it would have been obvious to one of ordinary skill in the art to integrate the mousing device of McCabe, Gaughan and Goto as taught by Funda for the benefit of easily manipulation of the device without removing hands from the instrument (Funda; col. 6, lines 53-59).

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCabe et al. (US 5,868,676) in view of Gaughan et al (US 5,589,893) and Goto (US 5,832,323) and further in view of Holmes (US 6,222,526).

With respect to claim 20, McCabe, Gaughan and Goto disclose, the mousing device of claim 13 (see above).

Neither McCabe, Gaughan nor Goto expressly disclose a fastener.

Holmes discloses, a mousing device (12 in fig. 7) comprising a fastener (54 in fig. 7) for affixing said mousing device to an operator (clear from fig. 7).

Holmes, McCabe, Gaughan and Goto are analogous art because they are all from the same field of endeavor namely cursor control of imaging devices.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the fastener of Holmes on the trackball device of McCabe, Gaughan and Goto for the clear benefit of fastening the input device to the operator.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM L. BODDIE whose telephone number is (571)272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/W. L. B./
Examiner, Art Unit 2629
6/15/09